

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R037XA006NM

Site Name: Shallow

Precipitation or Climate Zone: 7 to 10 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This upland site occurs on plateaus and mesas. It occupies knolls, ridges, and gently sloping plains. There are occasional drainageways associated with the site. Slopes are from 0 to 8 percent. Elevations range from 5,000 to 6,400 feet above sea level. This site is on all exposures, but exposure does not affect the vegetation.

Land Form:

1. Mesa

2.

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	5,000	6,400
Slope (percent)	0	8
Water Table Depth (inches)	N/A	N/A
Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to very high.

CLIMATIC FEATURES

Narrative:

This site has an arid, mild, dry climate with distinct seasonal temperature variations and large annual and diurnal temperature changes.

Mean annual precipitation varies from 7 to 10 inches. Deviations of 4 inches or more are quite common. Distribution is 65 percent during the native plant growth period, which is from April through September. May and June are the dry months. During July, August, and September, 3.5 inches of precipitation influences the presence and production of warm-season plants. Late fall and winter moisture is conducive to the production of cool-season plants, which usually begin growth in March and end with plant maturity and seed dissemination. This usually takes place in the early part of June when the moisture deficiency and warmer temperatures occur. The Gulf of Mexico is the principal source of moisture for summer precipitation, which is characterized by brief afternoon thunderstorms. Winter moisture occurs as light rain or snow.

Temperatures vary from a mean monthly of 75 degrees F in July to 27 degrees F in January. From a maximum of 106 degrees F to a minimum of 35 degrees F below zero. The average last killing frost in the spring is May 8, and the first killing frost in the fall is October 10. The frost-free season is approximately 160 days. Temperatures are conducive for native grass and forb growth from April through September. Maximum shrub growth occurs in the spring months.

The wind blows most frequently from an easterly direction, however, a majority of the stronger winds (10 to 25 miles per hour) are from a westerly quadrant. Spring is the windiest season. Average hourly wind velocities are near 6 mile per hour. Spring and summer winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface and often results in structural damage to native plants, especially young seedlings.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	114	151
Freeze-free period (days):	143	177
Mean annual precipitation (inches):	7	10

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.46	.70	12.7	43.1
February	.46	.74	18.4	50.8
March	.54	.70	22.7	60.4
April	.42	.56	29.3	70.0
May	.38	.62	37.6	79.5
June	.29	.68	46.6	90.0
July	.68	1.46	54.8	94.6
August	.79	1.83	53.1	91.8
September	.80	1.13	44.3	85.6
October	.78	1.30	31.7	72.4
November	.52	.68	20.9	56.3
December	.54	.64	12.8	46.6

Climate Stations:

Station ID	Location	Period	
		From:	To:
291647	Chaco Canyon Natl. Monument, NM	06/01/22	12/31/01
293134	Farmington 3NE, NM	1971	2000
293340	Fruitland 2E, NM	01/01/14	12/31/01
296465	Otis, NM	02/01/14	12/31/01
298284	Shiprock, NM	08/01/26	12/31/01

INFLUENCING WATER FEATURES**Narrative:**

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

This soil is shallow and well drained and has a light colored fine sandy loam surface about 3 inches thick. The subsoil is a brownish clay loam and sandy clay loam about 15 inches thick. Sedimentary rock occurs between 10 and 20 inches.

These soils formed in alluvial residual eolian material derived from sandstone and shale. Water intake rate is rapid. Permeability is moderately slow. Roots penetrate readily but are restricted by soil depth. Available water-holding capacity ranges from 1.5 to 3.0 inches.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Fine sandy loam
2. Clay loam
3. Loam
4. Sandy loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clayey

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 15 to 35

Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Excessively</u>
Permeability Class:	<u>Slow</u>	<u>Moderately rapid</u>
Depth (inches):	<u>4</u>	<u>20</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>4.00</u>
Sodium Absorption Ratio:	<u>0.00</u>	<u>5.00</u>
Soil Reaction (1:1 Water):	<u>6.6</u>	<u>8.4</u>
Soil Reaction (0.1M CaCl₂):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>0</u>	<u>3.0</u>
Calcium Carbonate Equivalent (percent):	<u>N/A</u>	<u>N/A</u>

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic Climax Plant Community

The vegetative aspect of this site is a shrub/grassland mixture characterized by short and mid-grasses. Shrubs and half-shrubs are quite noticeable. Perennial forbs are a minor component of the plant community. Annual forbs and grasses occur in relative abundance during spring months in years of above average plant growing conditions.

Canopy Cover:

Trees and shrubs 15 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 15

Bare ground 60

Surface cobble and stone 0

Litter (percent) 10

Litter (average depth in cm.) 1

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	113	281	450
Forb	15	38	60
Tree/Shrub/Vine	23	56	90
Lichen			
Moss			
Microbiotic Crusts			
Total	150	375	600

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	ACHY	Indian Ricegrass	56 – 75	56 – 75
2	BOGR2	Blue Grama	19 – 38	19 – 38
3	PLJA	Galleta	38 – 56	38 – 56
4	ARIST	Threeawn spp.	11 – 19	11 – 19
5	HECO26 HENE5	Needleandthread New Mexico Feathergrass	38 – 56	38 – 56
6	SPCR	Sand Dropseed	11 – 19	11 – 19
7	SPAI	Alkali Sacaton	19 – 38	19 – 38
8	ELEL5	Bottlebrush Squirreltail	11 – 19	11 - 19

Plant Type - Forb

Group	Scientific		Species Annual	Group Annual
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Number	Plant Symbol	Common Name	Production	Production
9	SENEC DESO2 PLPA2 YUGL ERIOG	Groundsel spp. Tansymustard Wooly Indianwheat Small Soapweed Buckwheat	11 – 19	11 – 19

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	KRLA2	Winterfat	11 – 19	11 – 19
11	EPCU	Cutler's Mormon-tea	11 – 19	11 – 19
12	ARTR2	Big Sagebrush	11 – 19	11 – 19
13	ATCA2	Fourwing Saltbush	11 – 19	11 – 19
14	LYPA CHVI8	Pale Wolfberry Douglas Rabbitbrush	4 – 11	4 – 11
15	GUSA2 OPPO	Broom Snakeweed Plains Pricklypear	11 – 19	11 – 19

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Additional plants which usually grow on this site in varying amounts, dependent on current growing season conditions are: fluffgrass, sixweeks grama, annual brome grass, Russian thistle, ring muhly, bladderpod, sixweeks fescue, fleabane, globemallow, fiddleneck, locoweed and feather dalea.

Plant Growth Curves**Growth Curve ID 0906NM**

Growth Curve Name: HCPC

**Growth Curve Description: Shrub and grass mixture characterized by short/mid-grasses
with a minor forb component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	10	25	30	10	3	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This ecological site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, coyote, striped skunk, black-tailed jackrabbit, spotted ground squirrel, deer mouse, sparrow hawk, horned lark, northern whiptail, short-horned lizard, and prairie rattlesnake.

The rock wren is a summer resident. While not resident, mule deer will move out of adjacent habitats to feed.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Eslendo	D
Farb	D
Monierco	D
Persayo	D
Travessilla	D

Recreational Uses:

No Data

Wood Products:

No Data

Other Products:**Grazing:**

This site is suitable for grazing use by cattle, sheep, horses, antelope, burros and small herbivorous animals. Various birds use this site for food and shelter.

Under pressure of uncontrolled grazing, the potential plant community deteriorates; there is a marked increase in relative abundance of shrubs, cacti, perennial and annual forbs. The density of perennial grasses will decrease, and there will be an increase in the density of annual grasses and forbs. In severe deterioration, the site will consist dominantly of shrubs, annual forbs, and annual grasses, with lesser amounts of grasses and large areas of unprotected soils.

Other Information:**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month****Similarity Index****Ac/AUM**

100 - 76

8.0 – 14.0

75 – 51

11.0 – 16.0

50 – 26

14.0 – 26.0

25 – 0

26.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Alkali Sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	U	U	U	D

Animal Kind: Livestock
Animal Type: Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Alkali Sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	U	U	U	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sand Dropseed	Sporobolus cryptandrus	EP	U	U	U	U	D	D	D	U	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: San Juan

Latitude: _____

Longitude: _____

Township: 27 N

Range: 11 W

Section: 31

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: A typical pedon of Monierco fine sandy loam in San Juan County, New Mexico, is about 8 miles north of Huerfano Trading Post, 350 feet west, and 50 feet north of the southeast corner of section 31, T. 27 N., R. 11 W.

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the San Juan River Valley, Mesas and Plateaus 37 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys : San Juan, McKinley.

Characteristic Soils Are:

Monierco	
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Other Soils included are:

Eslendo, Farb, Persayo, Travessilla	
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Site Description Approval:

Author

Don Sylvester

Date

03/06/79

Approval

Don Sylvester

Date

03/06/79

Site Description Revision:

Author

Elizabeth Wright

Date

07/08/02

Approval

George Chavez

Date

2/12/03